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Cambridgeshire County Council.

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE

Administrative County of Cambridge

For the Year 1916.

Cambridge:
THE CAMBRIDGE EXPRESS PRINTING Co., LTD.,
36, KING STREET.

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PREFATORY NOTE.

The death of Dr. Anningson, for many years Medical Officer of Health for a large rural population in this County, created a considerable gap in the public health service. The Local Government Board approved for the duration of the War the appointment of Dr. H. R. Coombes, Dr. N. Macfadyen and Dr. W. R. Grove, as Medical Officers of Health for the Rural Districts of Chesterton, Melbourn and Swavesey respectively. Since the end of the year also, Dr. P. Hughes Dudley has been appointed similarly for the Caxton and Arrington Rural District, filling the vacancy created by the death of Dr. Poyntz Wright, after a long period of public service in the County.

At the desire of the Local Government Board, the reports of the local Medical Officers of Health are much abbreviated for reasons of economy, being limited to a statement of work actually done, and in one or two cases dealing solely with vital statistics. The sections of the report for the County are therefore proportionately reduced, more extended reference being made to direct executive work undertaken by the County Council's staff.

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WATER SUPPLY.

Cambridge Borough.—The period of five years allowed under the Cambridge University and Town Waterworks Act for provision of a supply of water from a new site on the Fleam Dyke has again been extended for a period of one year. In addition to Cambridge Borough, this affects seven parishes in the Chesterton Rural District.

Rural Districts.—The records are confined to minor matters, no works of construction of importance having been undertaken. In Chesterton District two polluted wells were closed and a supply laid on from the Water Company's mains. In the Linton District the deep public well at Castle Camps collapsed; the question of a new supply was before the District Council, but was deferred until after the War. The Newmarket report refers mainly to repairs.

Samples of water were submitted by the various Local Authorities to the County Analyst, Mr. West Knights, with the following results :—

| | | | <i>Fit for Drinking Purposes.</i> | <i>Unfit.</i> | <i>Total.</i> |
|------------------|-----|-----|---|---------------|---------------|
| Chesterton Rural | ... | ... | 3 | 1 | 4 |
| Linton Rural | ... | ... | — | 1 | 1 |
| Melbourn Rural | ... | ... | 1 | — | 1 |
| Newmarket Rural | ... | ... | 1 | — | 1 |
| Private | ... | ... | 10 | 10 | 20 |
| | | | — | — | — |
| | | | 15 | 12 | 27 |
| | | | — | — | — |

HOUSING OF THE WORKING CLASSES.

Information is not forthcoming from some Sanitary Districts regarding action taken under the Housing (Inspection of District) Regulations, and the usual table cannot be constructed. The number of houses inspected varies from 10 in the Swavesey Rural District to 422 in the Newmarket Rural District. Very few houses have been represented as unfit for human habitation, and very few closing orders made, doubtless owing to the fact that the building trade is at a standstill. For example, no new houses were erected in the Linton and the Caxton and Arrington Rural Districts, only three in the Newmarket Rural District, and apparently 8 in the Chesterton Rural District.

Cases of overcrowding abated numbered 6 in Newmarket Rural District and 5 in Chesterton Rural District (one after legal proceedings).

REGULATED PREMISES.

Owing to the abbreviated reports no accurate statement can be made regarding the inspection of dairies, cowsheds, milkshops, bakehouses, slaughterhouses, common lodging houses and other regulated premises. Such figures as are given tend, however, to show that these premises are receiving attention from the Local Sanitary Authorities. In Cambridge Borough, for example, no fewer than 1408 visits were paid to the 26 slaughterhouses, while figures indicating periodic visitation of milk premises and bakehouses are given for four of the Rural Districts.

SEWERAGE, DRAINAGE AND REFUSE DISPOSAL.

No important works of construction have been undertaken, except that in Chesterton Rural District the roadway at Ditton Lane, which has been the subject of frequent reference in reports for recent years, has now been made up and surface water drains provided. The provision of surface water drains and other minor drainage works is recorded for this and other Rural Districts. There is nothing special to note with reference to refuse disposal.

POLLUTION OF RIVERS AND STREAMS.

In Chesterton Rural District a scheme has been prepared to divert the factory drainage at Histon, complaint having been made of pollution of the water-course which runs through this village.

NUISANCES AND SANITARY INSPECTION.

The tables of work done under these headings show a very considerable degree of activity on the part of the Sanitary Inspectors in the Districts for which they are furnished. This may be briefly illustrated by the following figures :—

Chesterton Rural, 795 inspections paid and 124 formal and informal notices served. Linton Rural, 645 sanitary inspections of houses, 103 notices served and 75 nuisances abated. Newmarket Rural, 278 nuisances inspected and 226 abated. Swavesey Rural, 187 premises inspected and 77 nuisances required to be abated.

SALE OF FOOD AND DRUGS ACTS.

County.—The total number of samples taken in the Rural Districts by the County Police and reported upon by the Public Analyst was 154, of which 45 were formal and 109 were informal. The principal articles sampled were milk 49 (47 new, 2 skimmed), butter 17, margarine 12, jam 13 and baking powder 12. The samples of baking powder were taken at the request of the Local Government Board.

Eight samples (milk 7, butter 1), or 5.2 per cent. of the total, proved not to be genuine. No proceedings were taken in respect of (a) 1 informal sample of butter, which contained slight excess (0.37 per cent.) of water, (b) 2 informal samples of milk, which contained 16 per cent. and 3 per cent. respectively of added water, as subsequent samples taken formally proved to be genuine, (c) 1 sample of milk deficient to the extent of 17 per cent. of milk fat, an "appeal to the cow" showing 20 per cent. deficiency of milk fat in a sample taken immediately after milking.

One informal sample of new milk was deficient in milk fat to the extent of 50 per cent., a subsequent sample taken formally showing a deficiency of fat of 50 per cent. and the addition of 11 per cent. of added water, while a sample of separated milk taken from the same vendor contained 45 per cent. of added water. The vendor was fined £2 15s. od. for each offence. Proceedings were taken against the vendor of a milk sample showing a deficiency of 26 per cent. of fat, who was also fined 40/- and 15/6 costs.

Cambridge Borough.—The number of samples taken for analysis, including 31 informal samples, was 123. The

principal items were milk 67, cream 9, butter 16, margarine 6, and baking powder 3.

The percentage of non-genuine samples (12 in number) was 9.7, compared with 8.4 in 1915, and 7.8 in 1914. Six vendors of 7 samples were prosecuted for selling milk not up to the standard, and one vendor was summoned for refusing to sell to the Inspector ; the total amount of fines and costs being £33 4s. od. One vendor was also fined £1 for selling unlabelled margarine.

Use of Preservatives in Milk and Cream.—In the rural area the Public Analyst examined for preservatives all samples taken under the Food and Drugs Acts which are likely to contain them. Boric Acid was present in 4 samples of butter in quantities varying from 0.30 to 0.45 per cent., and in 12 samples of margarine from 0.30 to 0.50 per cent. No preservatives were reported in milk samples.

In Cambridge Borough 67 samples of milk and one of cream were examined for preservatives, but none found to be present. Four samples of butter and 6 of margarine were found to contain boric acid in quantities varying from 0.40 to 0.50 per cent., while samples of preserved cream contained this preservative in amounts from 0.25 to 0.50 per cent. There were no prosecutions under the Milk and Cream Regulations.

UN SOUND FOOD.

Cambridge Borough.—Unsound food condemned included 510 stone 11 lbs. of meat and fish, 187 stone of fruit and 15 stone 6 lbs. of confectionery. Five beasts were surrendered

by the owners for removal and slaughter. Including these, the total weight of unsound food condemned was 788 stone 7 lbs.

Chesterton Rural District.—"A cow found in a butcher's slaughterhouse lair in an emaciated condition suffering from tuberculosis, was seized by the Inspector and ordered by a magistrate to be destroyed. Legal proceedings were taken, but on the defendant pleading that the cow was not intended for human food, the magistrates did not convict."

PREVENTION OF MORTALITY IN CHILD-BIRTH AND INFANCY.

MIDWIVES ACT.

The Superintendent of the County Nursing Association has continued to act as Inspector of Midwives for the County Council in both urban and rural areas. During the year 133 routine visits of inspection were paid to midwives by the Inspector, and 44 special enquiries were conducted by or for the County Medical Officer of Health.

The following is the number of women who, during the month of January, notified their intention to practise in the years specified :—

| | | | | Trained. | Untrained. | Total. |
|---------------|-----|-----|----|----------|------------|--------|
| January, 1906 | ... | ... | 24 | 42 | 66 | |
| „ 1916 | ... | ... | 30 | 13 | 43 | |
| „ 1917 | ... | ... | 30 | 13 | 43 | |

Including notifications after January, 1916, there were practising during the year 49 midwives (35 trained, 14 un-

trained). Since 1906, the commencement of the working of the Act, 59 per cent. of untrained women have ceased to practise. The increase in the number of trained women is due to the appointment of District Nurses, for whose training the Higher Education Committee make grants of £50 each to the County Nursing Association. During 1916 two Midwives who received scholarships commenced practising, and one further scholarship was granted. A dearth of applicants has resulted from war conditions.

In addition to the practising midwives, trained District Nurses have acted as maternity nurses. The Local Government Board now include maternity nursing in their grants for midwifery service, and the annual sum forwarded to the County Nursing Association for distribution to affiliated District Nursing Associations has been increased from £45 to £100. The grants are available for unaffiliated District Nursing Associations, and are preferably paid through the County Council, but no applications have been received.

The County Medical Officer of Health has furnished a report showing that about 26,000 of the rural population are without a District Nursing Association or a trained midwife practising within their area, in some cases the nearest doctor being 6 or 7 miles distant. The supply of a midwifery service has, at the request of the Local Government Board, been considered by the County Council and the County Nursing Association. A scheme has been submitted by the County Nursing Association and approved by the County Council, under which the Association would provide the Council with trained nurse-midwives, a grant being made by the County Council, half of which would be recovered from the Local Government

Board. The general approval of the Board to this scheme has been received.

From information furnished by the midwives the total number of cases attended by them during the year, whether as midwife or maternity nurse, is returned as 1059, compared with 1046 during 1915. Of these 285 were attended in the capacity of maternity nurse. This leaves 774 attended independently as midwives, a decrease of 52 on the figures for 1915. Medical assistance was advised by the midwives in 97, or 13 per cent., of these cases, compared with 11 per cent. in 1915.

The following figures indicate the total cases conducted independently by midwives under the Act :—

| | Births Registered. | Conducted by Midwives. | Percentage of Midwives Cases. | |
|-------------------|-----------------------|---------------------------|----------------------------------|-------|
| | | | 1915. | 1916. |
| Cambridge Borough | 991 | 504 | 51 | 51 |
| Rural Districts | 1259 | 270 | 25 | 21 |
| Whole County | 2250 | 774 | 36 | 34 |

Of the 774 confinements conducted independently by midwives, 672, or 87 %, were conducted by trained women, leaving 102, or 13 %, conducted by untrained (though registered) women.

Apart from intentions to practise and change of address, notifications received from midwives numbered 129, against 124 in 1915. They comprised (a) and (b) advice of medical help for mother or infant 67 and 34, (c) still births 19, (d) death of infant (no doctor attending) 3, and (e) laying out the dead 6. It is satisfactory to note that not only were no septic cases notified, but in only one case was there reasonable

suspicion of such infection. Of 13 notified cases of inflammation of the eyes of the infant only 2 were severe, and both made a satisfactory recovery. The enquiries generally indicated a satisfactory standard of efficiency in the practice of the midwives.

INFANT AND MATERNAL WELFARE.

Cambridge Borough.—Under the Notification of Births Act, 1907, which is administered by the Town Council, 94.1 per cent. of the total births registered were notified, an increase of 1.4 per cent. on 1915. There was a decrease in notifications by medical practitioners and an increase in those by parents; notifications by midwives remained steady.

The three Health Visitors of the League of Physical Education and Improvement, whose services are given to the Corporation, paid 5332 visits to infants born in 1915 and 1916. The League also extended their infant consultations and schools for mothers by the addition of a 5th centre at Old Chesterton.

Rural Districts.—The Notification of Births Act has been administered by the County Council for the rural area since January 1st, 1915. During 1916 the number of notifications received was 1249, against 1026 in 1915. Of these, 750, or 60 per cent., were received from medical practitioners, 381, or 30.5 per cent., from midwives, and 118, or 9.5 per cent., from relatives and others. After excluding duplicates, the total number of births notified was 1211, or 93 per cent. of the total registered.

Steps continued to be taken to ascertain unnotified births. The Registrars gave information regarding 74 such

births, and the Health Visiting Staff discovered 25 others. Ninety-seven infants were not visited, as the parents were in good circumstances or the infants had died, or for other reasons. Including those under visitation at the end of 1915 the total number of infants systematically visited during 1916 was 2246. The total number of visits paid during the year was 8788, of which 4055 were paid by District Nurses and 4733 by the Central Staff of the County Nursing Association in the unnursed areas. The work is carried out under the supervision of the Superintendent of the County Nursing Association acting under the direction of the County Medical Officer of Health.

An analysis of the records relating to 1813 of the infants visited shows an increase in the proportion of children entirely breast-fed from 79 per cent. in 1915 to 84 per cent. in 1916, with a reduction of those partially hand-fed from 11.5 per cent to 7.5 per cent and of those wholly hand-fed from 9.5 per cent. to 8.5 per cent. Of 218 bottle-fed infants, 88.5 per cent. were fed from boat-shaped bottles with teat only, and 11.5 per cent. from the old long-tubed bottle. Advice given during ante-natal visitation should help to discourage the provision of the latter insanitary type of bottle. The proportion of infants using dummy teats ("comforters") was 37 per cent.

For only 18 per cent. of the infants in 1915 and 16 per cent. in 1916 was a cradle or cot provided, or, in other words, more than 80 out of every 100 infants were exposed to the danger of death from suffocation from sleeping in bed with the mother. As a cheap substitute for a cot can easily be provided with a little trouble, emphasis by Health Visitors during ante-natal visitation on such provision should lead to a reform which is obviously needed.

II

The work of home visitation has been extended, and now includes (a) ante-natal visitation of mothers ; (b) visitation of infants during the first year of life ; and (c) visitation from the end of the first year until the entrance of the child to school. The Council have also arranged to make provision for medical attendance and hospital beds for difficult cases of confinement.

SCHOOLS.

A detailed statement regarding sanitary administration in the schools of the County Education area is made in my Annual Report to the Education Committee. Six reports on the sanitary condition of school premises were presented to the Buildings Sub-Committee regarding two Provided and four Non-Provided Schools, the seven defects reported upon including ventilation 1, offices and draining 3, heating 1, lighting 1, and general sanitary condition 1.

As regards infectious diseases the principal feature of the year was the widespread prevalence of whooping cough and mumps ; also in the winter months there was much epidemic catarrh. Fifty-seven special visits were paid to the Schools by the Medical Staff, and there were 50 school closures, all on the certificate of the School Medical Officer. Of the closures 22 were for whooping cough, 10 for mumps, 9 for epidemic catarrh, 2 each for diphtheria, scarlet fever and measles, and 3 for other diseases. One closure for Mumps was extended by the Local Sanitary Authority. During the year 286 home visits were paid by the School Nurses for enquiry and advice regarding cases of infectious or contagious disease notified by teachers.

Under the arrangement made by the Education Committee for the bacteriological diagnosis of diphtheria, 225

swabs were taken by the Medical Staff during the year from schools in 13 parishes, evidence of diphtheria being obtained from 12 swabs. In addition bacteriological examinations for tuberculosis were made from school children by the Tuberculosis Officer, and microscopic examinations for ringworm were carried out by the School Medical Staff.

MENTAL DEFICIENCY ACT, 1913.

Owing to restrictions in the amount of financial aid forthcoming from the Treasury through the Board of Control, the number of cases dealt with in 1916 was necessarily limited. The number of defective children notified by the County Education Committee was also smaller, owing to the absence of the Assistant Medical Officer on military hospital duties. The County Council have, however, marked their sense of the importance of the adequate administration of the Act by making provision in the estimates for 1917-18 for institutional accommodation of 12 cases in addition to those for which grant is available.

During the year 13 new cases were brought to the notice of the Statutory Committee, of which 8 and 1 were notified by the County and Borough Education Committees respectively as "ineducable," 2 were charged with offences, 1 was neglected and 1 was in receipt of Poor Relief and about to leave a special school at 16 years of age. Of these, 7 were placed under the supervision of the Voluntary Association, 1 was admitted to a Certified Institution by Order of a Court, and 1 by Order on petition by the Statutory Committee, while one other was maintained in a Certified Institution conjointly with a Poor Law Authority. In addition, one case was privately dealt with under the Lunacy Laws, one was referred

to the Relieving Officer as an alleged lunatic, and one case was regarded as not mentally defective.

In addition, of cases previously known to the Committee and again before them, one charged with an offence was placed under guardianship by Order of a Court, one notified by an Education Authority as a moral imbecile was admitted to a certified institution by Order on a petition by the Statutory Authority, and two "ineducable" children were placed under the supervision of the Voluntary Association. Also one child under statutory supervision was admitted by election to a certified institution.

The total number of cases before the Committee from 1914 to the end of 1916 was 83, of whom 3 have died. At the end of 1916 the County Council were maintaining 22 cases in certified institutions and contributing under their permissive powers to the maintenance in institution of 2 others, 3 were under guardianship in institutions, and 30 under supervision by the Voluntary Association, making a total of 57 defectives for whom the Council had assumed responsibility.

In view of the financial stringency brought about by the war, a conference was held between the Statutory Committee and the local Poor Law Authorities to ascertain to what extent the latter Authorities would be prepared to apply for temporary approval of their Workhouses as certified Institutions for the reception and detention of defectives of specified types, for whom no special training would be required. There is good reason to anticipate the approval by the Board of Control of four Workhouses within this County.

VENEREAL DISEASES.

Following on the report of the Royal Commission, the Local Government Board issued in July, 1916, the Public

Health (Venereal Diseases) Regulations. These aim at reducing the prevalence of these preventible diseases which, besides causing serious mortality and physical inefficiency, contribute materially to the cost of the Poor Law and Lunacy administration and to the lowering of the birth-rate. The intention of the regulations is to overcome the reluctance of patients to submit themselves for treatment by providing at public cost the most modern methods of diagnosis and treatment under strict conditions of secrecy. The County Council are required to provide (a) laboratory facilities for diagnosis, (b) institutional treatment, and (c) special drugs to medical practitioners. These facilities are to be available to the general public free of cost, 75 per cent. of the expense being repaid by Government grants to the County Council.

After early and full consideration, the Public Health Committee entered into negotiations with the Governors of Addenbrooke's Hospital and others, and prepared a scheme, which, after approval by the Council, was submitted to the Local Government Board and has been in operation since January, 1917. The provision made is as follows :—

A treatment centre is established in the out-patient department of Addenbrooke's Hospital, where two specially qualified Medical Officers are in attendance on two days in each week. There are separate hours for men and women, and the arrangements are such as to avoid publicity.

Beds are set apart in the hospital for the reception of cases of venereal disease in the communicable stages.

Salvarsan substitutes are furnished, free of charge, to medical practitioners who are experienced in their administration.

Specimens for laboratory diagnosis, including the Wassermann reaction, are examined free of charge by two experienced pathologists at the University laboratories.

In addition to the duties outlined, the County Council are empowered by the Regulations to conduct a campaign for the education of the public on the dangers arising to the community from the prevalence of venereal diseases. A conference was therefore called by the Council between the Public Health Committee and representative members of various organisations, and it was resolved that a local branch of the National Council for Combating Venereal Diseases be formed, the Executive Committee of which will advise the County Council as to the lines of their educational campaign. A scheme of lectures has already been drawn up for the consideration of the Public Health Committee.

ISOLATION HOSPITALS.

There has been no addition to the Isolation Hospital accommodation during the year, and the deficiency in the rural area recorded in previous reports is not likely to be remedied during the War. Following on my annual inspection of the Hospitals, I reported favourably, and the annual maintenance grants were approved for payment by the County Council. Dr. Laird is able to report that at the Cambridge Borough Isolation Hospital work has been carried on as usual, and military cases have, in addition, been received from a wide area in spite of much difficulty in maintaining the nursing and domestic staff owing to the demand of female labour elsewhere arising out of the War.

The only real provision for small-pox cases is the temporary hospital belonging to the Cambridge Borough Council, and

provisional arrangements for reception of their cases into this hospital have been made by 5 of the 6 Rural District Councils.

The following figures show the extent to which civilian cases were isolated in Hospital :—

Scarlet Fever.—Cambridge Borough, 75 per cent. of 85 cases, Chesterton Rural, 75 per cent. of 24 cases, Melbourn Rural, 27 per cent. of 11 cases, Newmarket Rural, 82 per cent. of 22 cases, and the one case notified in the Swavesey Rural District.

Diphtheria.—Cambridge Borough, 91 per cent. of 103 cases, Chesterton Rural, 53 per cent. of 15 cases, Newmarket Rural 65 per cent. of 17 cases, and Melbourn Rural 1 “carrier.”

Enteric Fever.—Notified 5, removed none.

Puerperal Fever.—Notified 3, removed none.

Acute Poliomyelitis.—Notified 4, removed 2 (Linton and Caxton and Arrington Rural Districts).

Cerebro-Spinal Meningitis.—Notified 3, removed 1 (Chesterton Rural).

Other cases admitted to Cambridge Borough Isolation Hospital included diphtheria carriers 82, suspected diphtheria 1, measles 11, German measles 64, mumps 14, tonsilitis 1. These include military cases.

CO-OPERATION WITH MILITARY AUTHORITIES.

As billeting has been mainly in Cambridge, the bulk of the work has again fallen to the Borough Public Health Department. A large amount of work has been done in the

isolation of 135 cases of infectious disease in the Isolation Hospital, the disinfection of some 39,000 articles and the supervision of food supplies by visitation of mess kitchens, contractors' premises, etc. In the Chesterton Rural District " food for Army contracts has been prepared in very considerable quantities, and much time has been devoted to the important work of supervising the same."

The assistance given by the County Public Health Department was mainly in the direction of supplying systematic information to the Military Authorities regarding notifications of tuberculosis among men of military age and as occasion has arisen regarding infectious disease.

Recruits and discharged soldiers have been systematically examined by the Tuberculosis Officer on reference from the Army Authorities. Sanatorium accommodation is now found by the County Council for soldiers discharged from the Army, on reference to them by the Insurance Committee or through other channels, the accommodation being largely provided by the Bourn Tuberculosis Colony.

METHODS OF CONTROL OF TUBERCULOSIS

The County Council have continued to undertake arrangements for diagnosis, treatment and supervision of the mode of life of persons suffering from tuberculosis, as distinguished from the general sanitary control and arrangements for disinfection and supply of articles to facilitate the prevention of spread of the disease which are undertaken by the Local Sanitary Authority.

During the year the County Council approved an amended agreement with the Insurance Committee for the treatment

of tuberculosis, by which, in effect, the Committee hand over to the Council the funds remaining available to them after deducting the cost of domiciliary treatment provided by them for insured persons. The County Council now provide Dispensary and Sanatorium accommodation for insured and uninsured alike.

Tuberculosis Dispensary.—By agreement with the Insurance Committee the Dispensary organisation is available for insured and uninsured alike. From motives of economy it is not proposed here to recapitulate the nature of the work done, a full description of which has been given in previous reports. It may, however, be recalled that in addition to diagnosis and advice at the Dispensary the organisation includes systematic home visitation of tubercular persons, including advice as to ventilation, sleeping accommodation, mode of disposal of infective material and precautions generally for the patients and their housemates. Structural defects are referred to the Local Sanitary Authority for remedy.

Stress should be laid on the assistance given to the Military Authorities by the Acting Tuberculosis Officer (Dr. Varrier-Jones), who has examined a considerable number of recruits and reported upon their fitness for military service, in addition to advising as regards discharged soldiers who have applied for sanatorium benefit.

The Dispensary work is carried on for the whole County at the Cambridge Centre, and no branch stations have yet been established in the Rural Districts. The post of Acting Tuberculosis Officer was made a whole time appointment during 1916 on account of the expansion of the work, and for the same reason the County Council have recently resolved to transfer the Dispensary to more commodious premises in the immediate neighbourhood.

The following figures indicate the volume of work done by the Acting Tuberculosis Officer and Nursing Staff during the year.

1. *Visits of Patients to Dispensary :—*

| | | | |
|-------------------|----|----|-------|
| Insured persons | .. | .. | 432 |
| Contacts | .. | .. | 218 |
| School Children | .. | .. | 247 |
| Other Non-insured | .. | .. | 189 |
| | | | <hr/> |
| | | | 1086 |
| | | | <hr/> |

2. *Visits to Homes :—*

(a) By Tuberculosis Officer :

| | | | <i>Borough.</i> | <i>Rural.</i> | <i>Total.</i> |
|-------------------|----|----|-----------------|---------------|---------------|
| Insured | .. | .. | 61 | 931 | 992 |
| School Children | .. | .. | 6 | 383 | 389 |
| Other Non-insured | .. | .. | 16 | 334 | 350 |
| | | | <hr/> | | |
| Total | .. | .. | 83 | 1648 | 1731 |
| | | | <hr/> | | |

(b) By Dispensary Nurse :

| | | | | | |
|-------------|----|----|-------|-----|------|
| Insured | .. | .. | 372 | 272 | 644 |
| Non-insured | .. | .. | 420 | 316 | 736 |
| | | | <hr/> | | |
| Total | .. | .. | 792 | 588 | 1380 |
| | | | <hr/> | | |

(c) By General Nursing Staff :

| | | | | | |
|-------------|----|----|-------|------|------|
| Insured | .. | .. | — | 721 | 721 |
| Non-insured | .. | .. | — | 868 | 868 |
| | | | <hr/> | | |
| Total | .. | .. | — | 1589 | 1589 |
| | | | <hr/> | | |

| | | | |
|----------------------------|-----|------|------|
| Grand total of home visits | 875 | 3825 | 4700 |
|----------------------------|-----|------|------|

These figures, compared with the preceding year, 1915, shew an increase of 158 visits paid to homes by the Acting Tuberculosis Officer, and of 565 home visits by the total nursing staff. Owing to the expansion of work the Council have now requested the approval of the Local Government Board to the appointment of an additional Nurse for tuberculosis work in the Rural Districts.

Specimens of sputum bacteriologically examined during the year numbered 82, of which 65 were examined by the Acting Tuberculosis Officer and 17 by Dr. Graham Smith. The tubercle bacillus was found in 24 specimens. Also X-Rays examinations by the Acting Tuberculosis Officer were approved, the apparatus of the Medical Schools to be used.

Shelters.—The loan of open-air shelters with outfits of bedding was continued throughout the year. Nine shelters were disposed of to the Bourn Colony and replaced by the purchase of new ones, leaving 51 shelters in the possession of the Council at the end of the year.

Sanatorium Accommodation.—During the year the agreement already referred to was arrived at under which the County Council should provide the necessary sanatorium accommodation for all suitable cases regardless of insurance, up to a maximum of 30 beds, the Insurance Committee handing over their available funds and being entitled to a minimum of 8 beds. The Council also resolved to provide accommodation for discharged soldiers and sailors in addition to the 30 beds for the civilian population.

Since the scheme came into operation at the beginning of 1917, accommodation has been found up to the time of writing for 28 Insured persons, and 20 Uninsured (includ-

ing children), and for 25 soldiers and sailors. The Institutions to which these cases are sent are the Bourn Tuberculosis Colony, Maltings Farm Sanatorium, Lord Mayor Tieloar's Sanatorium at Alton, Brompton Hospital and the Holt Sanatorium for Children.

Hospital Beds for Advanced Cases.—Military requirements and staffing difficulties arising out of the War have prevented the 12 beds approved by the Local Government Board at the Borough Isolation Hospital from being used for the reception of advanced cases.

Cambridgeshire Tuberculosis Colony.—In this voluntary Institution of 16 beds at Bourn, 12 beds are reserved for patients sent by the County Council. Male cases only are admitted, and discharged soldiers have latterly been in the majority. The Acting Tuberculosis Officer, who is Honorary Medical Officer to the Colony, furnishes the following statement :—

“ The number of cases admitted to date is 81 ; of these 30 were ex-soldiers and the others insured persons. Cases have been admitted from other Counties as well as from Cambridgeshire. The length of treatment is varied from three to six months, the latter period being more desirable.

“ Of the cases treated, 53 are working at the present time, 15 are still under treatment on part-time work, 4 are dead (all ex-soldiers), and 9 have removed from the County and were at work when last heard of. One patient stayed one day only ; he died at his own home six months afterwards.

“Patients have been engaged in gardening and have entirely made the garden as it at present exists; they have built a number of shelters completely, and have done all the work in connection with the Colony to bring it up to its present form. Patients who are discharged from the Colony are at once put on the list of cases to be treated by the Tuberculosis After-Care Association.”

Cambridgeshire Tuberculosis After-Care Association.—

The Association had its origin in a desire to counteract the effect of the rules of certain Friendly Societies which prohibit any work being undertaken by sick members while in receipt of financial support from their Society. The Association is concerned mainly, though not exclusively, with members of Approved Societies, and gives necessary financial assistance from its funds, which are derived from the subscriptions of Approved Societies and private individuals. It has now been at work for some months, and the Acting Tuberculosis Officer makes the following statement regarding the mode of action :—

“The patient who has returned from a sanatorium is assisted to resume his former occupation (if suitable) by gradually increasing the hours of work. The After-care Association pays him a weekly sum which is intended to bring up the man's total income to his full earning capacity as nearly as possible. After repeated medical examinations, the man is gradually allowed to increase the work, so that in a space of time varying in each individual case, the man's full working capacity is obtained. The allowance is still

continued, and not until the man is found to be fairly on his legs is the allowance gradually diminished. The results have been very satisfactory, all the cases so far treated have been able to resume full work, and have thus come off the club in a shorter time than would otherwise have been the case.

“ Another type of case assisted is the chronic case of bone disease, where the inducement such as that offered by the After-care Association enables the man once again to start work and to gradually increase it. Satisfactory results have been obtained in this class of case greatly to the advantage of the Friendly Societies.”

VITAL STATISTICS AND INCIDENCE OF INFECTIOUS DISEASE.

Population.—The Registrar General has furnished two estimates of the population for 1916 ; (a) for calculation of the death-rate, an estimate of the *civilian* population, and (b) for calculation of the birth-rate, an estimate of the *total* population based on the assumption that the ratio between total and civilian population is the same in the district as in England and Wales as a whole, and calculated by adding to the published estimate for 1914 the natural increase (excess of births over deaths) up to the middle of the year 1916. The figures for the County are as follows :—

| | | <i>For Birth</i> | <i>For Death</i> |
|------------------------------|----|------------------|------------------|
| | | <i>Rate.</i> | <i>Rate.</i> |
| County of Cambridge | .. | 128790 | 118371 |
| Cambridge Borough | .. | 56834 | 52236 |
| Aggregate of Rural Districts | | 71956 | 66135 |

Individual Rural Districts.

| | | | <i>For Birth</i> <i>Rate.</i> | <i>For Death</i> <i>Rate.</i> |
|----------------------|----|----|----------------------------------|----------------------------------|
| Chesterton | .. | .. | 23652 | 21738 |
| Caxton and Arrington | .. | .. | 7445 | 6843 |
| Linton | .. | .. | 10040 | 9228 |
| Melbourn | .. | .. | 8664 | 7963 |
| Newmarket | .. | .. | 19622 | 18035 |
| Swavesey | .. | .. | 2533 | 2328 |

Birth-Rate.—No figures for comparison with urban and rural areas elsewhere are available. The statistics furnished by the Registrar-General are as follows :—

| | <i>Births.</i> | <i>Birth-rate.</i> |
|-----------------------|----------------|----------------------|
| Administrative County | 2250 | 17.5 per 1000 living |
| Cambridge Borough .. | 991 | 17.4 „ „ „ |
| Rural Districts .. | 1259 | 17.5 „ „ „ |

The decrease of nett births on the figures for 1915 was 62 for the whole County, 6 for Cambridge Borough, and 56 for the rural area. The highest rural birth-rate was 18.1 for Caxton and Arrington, and the lowest, 15.8, for Newmarket.

There were 140 illegitimate births in this County (72 in Cambridge, 68 in rural area) yielding a rate of 6.2 per 100 births (7.2 in Cambridge, 5.4 in the rural area) against 5.3 in 1915. There was during 1916 an increase of illegitimacy in Cambridge of 2.1 per cent. of total births, and a decrease in the rural area of 0.1 per cent., the rural rate being therefore practically stationary. The percentage illegitimacy rates for 1913, the last complete year before the war, were 4.5 for the

whole County, 4.0 for Cambridge, and 4.9 for the rural area. Expressed as births per 1,000 of the population the illegitimacy rate for the County for 1916 was 1.09 as against 1.00 in 1915, and 0.88 per 1,000 in 1913.

In the whole County, 19 still-births were notified by Midwives under the Midwives Act, or 2.5 per cent. of the cases attended by them, against 2.2 per cent. in 1915. In Cambridge Borough 34 still-births were notified under the Notification of Births Act, or 3.4 per cent. of the births registered. In the rural area 56, or 4.5 per cent. of births notified under the Notification of Births Act, were still-births, and, omitting duplicates, one other was notified under the Midwives Act.

Death-rate from all Causes.—Statistics relate to the civilian population only. After allowing for deaths away from the usual place of residence the nett death-rate for the whole County was 14.4 per 1,000, as against 16.8 in 1915. The corresponding rates for the urban and rural areas were 13.0 and 15.5 per 1000, a reduction of 3.4 and 1.5 per 1,000 respectively on the mortality for 1915. The rate for Cambridge was 1.4 below that for the Great Towns, and that for the rural area 0.6 above that for Rural England and Wales. The highest rate was that for Linton, 16.9.

The total number of deaths in the whole County was 1,708, being 358 fewer than in 1915. This reduction was mainly due to the absence of measles which was epidemic in 1915, and to the decline in mortality from respiratory diseases and "other defined" causes. There was also an appreciable decline in deaths from organic heart disease and congenital debility, and an increase in deaths registered as due to pulmonary tuberculosis and whooping cough.

Infantile Mortality.—The number of deaths under one year (155) was 57 fewer than in 1915, and constituted a mortality rate of 69 deaths per 1,000 births. The rate for Cambridge Borough was 72, against 99 for the Great Towns, while that for the aggregate Rural Districts was 65, against 81 for Rural England and Wales. Compared with the average infantile death-rate in the County for the preceding 8 years, there was a saving of 12 infant lives per 1,000 born, and a reduction of mortality equal to 15 per cent.

Detailed analysis of the causes of death is not given for some of the sanitary districts, and cannot therefore be made for the whole County. There was an increase in deaths from whooping cough which is not under administrative control; deaths from diarrhoea remained low as in the previous year. There was marked reduction in deaths from measles, respiratory diseases and in the congenital debility group, which includes premature births; reduction in mortality from the group last named is a very satisfactory feature.

Epidemic Diseases.—Excluding tuberculosis and measles there was a reduction of notifications of infectious disease from 486 in 1915 to 413 in 1915, due practically to the decline in prevalence of scarlet fever in certain of the rural districts. Diphtheria was more prevalent in Cambridge and less prevalent in the rural area than in 1915, and there were but few cases of other dangerous infectious diseases. There were no outbreaks of an unusual character in Cambridge Borough, in spite of considerable movements of the population and the return of soldiers convalescent from infectious diseases.

Deaths from the principal epidemic diseases numbered 53, yielding a mortality rate for the County of 0.45 per 1,000

living, 0.65 for Cambridge Borough, and 0.29 for the aggregate rural districts. These rates were all less than half of those for 1915.

Small-pox.—No case was notified.

Scarlet Fever.—The number of notified cases fell from 273 in 1915 to 173 in 1916, yielding a notification rate of 1.46 per 1,000 of the population compared with 2.21 for the Administrative Counties of England and Wales. There was a reduction of prevalence in almost all the rural districts, but especially in Chesterton and in Caxton and Arrington. There was no serious outbreak, and only two deaths occurred.

Diphtheria.—The notified cases numbered 145 (130 in 1915), yielding a sickness rate of 1.22 cases per 1,000 living, a lower rate than that (1.40) for Administrative Counties. In Cambridge Borough 104 cases were notified against 67 in 1915, and in the rural area 41 against 63 in 1915, no very serious outbreak occurring. The mortality rate for the County, 0.13 per 1,000 living, was slightly below that for England and Wales (0.14). The rate for Cambridge Borough, 0.25 per 1,000 living, exceeded that for the great Towns (0.15), while that for the rural area, 0.04 per 1,000, was much below the rate for Rural England and Wales (0.14).

Enteric Fever. As in 1915, only 6 cases were notified, the notification rate being 0.05 per 1,000 living, or less than one-third of the rate (0.17) for Administrative Counties. Two cases were notified from Cambridge Borough and 4 from the rural area. There was one fatal case.

Erysipelas.—There were 55 notified cases against 60 in 1915; none were fatal. The sickness rate for the County, 0.46 per 1,000 living, was almost identical with that for Administrative Counties (0.47).

Puerperal Fever.—All 3 notified cases occurred in the rural area; they yield a sickness rate for the County of 0.02 per 1,000 living, against 0.04 for Administrative Counties. One case proved fatal.

Diarrhæal Diseases. Seven deaths occurred under two years of age against 10 in 1915. The death rates per 1,000 *births* were 3.11 for the County (England and Wales 12.47), 4.0 for Cambridge Borough (16.24 for the Great Towns), and 2.38 for the rural area (7.70 for Rural England and Wales). The mortality from this cause was therefore very low compared with similar areas elsewhere.

Whooping Cough.—Deaths from this cause rose from 14 in 1915 to 25 in 1916. Of these, 15 were in Cambridge Borough, and 10 in the rural area. The comparative mortality rates per 1,000 living were:—Cambs. 0.21 (England and Wales 0.16), Cambridge Borough 0.28 (Great Towns 0.21), and Rural Cambs. 0.15 (Rural England and Wales 0.12).

Measles.—Following on the epidemic of 1915, only one death occurred in 1916 in Cambridge and none in the rural area.

Measles and German Measles have been compulsorily notifiable since January 1st, 1916. It is now the duty of the parent or guardian to notify such cases to the Medical Officer of Health, and of the doctor where no previous case has

occurred in the household during the preceeding two months. In Cambridge Borough arrangements have been made with the District Nursing Association for nursing selected cases in their homes.

Acute Poliomyelitis (Infantile Paralysis).—Four notifications were received, one each in Cambridge Borough and Linton Rural District, and two in the same parish in the Caxton and Arrington Rural District. All recovered, though permanent paralysis resulted in one case. One case was not typical.

Cerebro-Spinal Meningitis.—Four notifications were received, 3 from Cambridge Borough (one afterwards withdrawn), and one from Chesterton Rural District. There were 2 deaths attributed to this disease, both assigned to Cambridge Borough, but one proved post mortem to be due to other causes; one case which recovered had been associated with soldiers in billets, but the men were in good health. The Chesterton Rural case was admitted to Addenbrooke's Hospital.

Pulmonary Tuberculosis.—The total number of civilian primary notifications received (Form A) was 248, or 2.09 per 1,000 of the population, against 2.20 in 1915. Of these, 115 were notified within Cambridge Borough and 133 within the rural area, yielding notification rates of 2.20 and 2.01 respectively per 1,000 living. After deducting 8 duplicates, 240 notifications of fresh cases remain, against 269 in 1915, yielding a notification rate of 2.03 per 1,000 living.

The number of deaths registered from this cause was 140 in the whole County (113 in 1915), 62 in Cambridge Borough

(55 in 1915), and 78 in the rural area (58 in 1915), yielding a mortality rate for both urban and rural areas of 1.18 per 1,000 living.

Tuberculosis of other Organs.—Ninety-nine notifications were received from the whole County during 1916, a great increase on the efficiency of notification compared with 1915, in which 45 cases only were notified. The notification rate was 0.84 per 1,000 living. From the Borough of Cambridge 49 cases were notified (against 12 in 1915), yielding a notification rate of 0.93 per 1,000 living, while 50 notifications were received from the rural area (against 32 in 1915), the rate of notification being 0.75 per 1,000 living. There were 4 duplicate notifications.

There were 21 deaths in all, 8 in Cambridge Borough and 13 in the rural area, yielding mortality rates of 0.17, 0.15 and 0.19 respectively.

Cancer. There were 199 deaths attributed to cancer against 205 in 1915, 79 occurring in Cambridge Borough and 120 in the rural area. The proportion of deaths per 1,000 living was 1.68 in the whole County, 1.51 in the urban, and 1.81 in the rural area. The corresponding crude rate for England and Wales for 1915 is 1.07 per 1,000 living.

Respiratory Death Rate.—There were 259 deaths from non-tubercular diseases of the respiratory organs, 123 fewer than in 1915, a year of excessive mortality from these causes, associated with measles and the inclement weather. The mortality rate for the whole County was 2.18 per 1,000 living, and for the urban and rural areas 2.12 and 2.24 respectively.

Ophthalmia Neonatorum.—There were 24 notifications, the great majority being cases of slight inflammation of the eyes of a non-infective character. Of the 17 cases notified in Cambridge Borough one resulted in permanent injury to sight. The remaining 7 cases were notified from the rural area. Of 13 cases notified under the Midwives Act only 2 were severe in degree.

FRANK ROBINSON,
County Medical Officer of Health.

County Hall, Cambridge,
September. 1917.

